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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,466	03/19/2001	Iichirou Inoue	3693-18	8980

7590 04/23/2003

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

09/810,466

Applicant(s)

INOUE ET AL.

Examiner

Andrew Schechter

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Liquid crystal display device with antiglare layer".

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19, 35, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 recite that the specular reflection characteristic and the specular transmission characteristic satisfy "a predetermined relationship, thereby suppressing a reduction". The specification does not describe in sufficient detail what the "predetermined relationship" is, nor compared to what the reduction is suppressed. The scope of these claims is therefore unclear. Since there is always a relationship between these two, for instance, comparing the magnitudes of the two quantities (greater than, less than, equal to), which suppresses a reduction compared to some other hypothetical

device, for examining purposes below, it is assumed that this limitation is satisfied by any antiglare layer.

4. Claims 38-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 38 and 50 recite "a chromaticity value (x,y) has a relationship..." (less than certain values when viewed off-axis). This is unclear. A chromaticity near  $x = 0.2$ ,  $y = 0.2$  (say) would be within the recited ranges, but this merely represents a blue color which can be displayed by most liquid crystal displays, so it is not a sensible limitation. Possibly the applicant is trying to express the idea that when a light source having a particular (white) chromaticity value (near  $x = 0.310$ ,  $y = 0.316$  or some other value?) is used and a white image is displayed, the displayed color is in the recited range. Is this what is meant? Until this is more precisely defined, for examining purposes it is assumed that the limitation means that there is only minimal change in chromaticity for off-axis viewing.

#### ***Double Patenting***

5. Applicant is advised that should claims 3 and 4 be found allowable, claims 11 and 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after

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allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 7-13, 16-22, 25-30, and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamahara et al.*, U.S. Patent No. 5,844,649 in view of *Maekawa*, U.S. Patent No. 6,164,785.

*Yamahara* discloses [see Fig. 1, for instance] a liquid crystal cell [1] with substrates and liquid crystal, a pair of polarizers [4 and 5], a phase compensation element [2]. It does not explicitly disclose an antiglare layer.

*Maekawa* does disclose an antiglare layer [1] for use in an analogous device. It would be obvious to one of ordinary skill in the art to use the antiglare layer of *Maekawa* with the display device of *Yamahara*, motivated by *Maekawa's* teaching that it provides an antiglare film "which can maintain images clear and does not cause the scintillation of images" [see abstract] (and more simply, that it prevents glare as the name suggests). Claim 1 is therefore unpatentable (see discussion above regarding the "predetermined relationship").

The antiglare layer of *Maekawa* has both an internal scattering layer and a scattering surface, so claims 3, 11, 20, and 29 are also unpatentable. (The examiner notes that the claim does not require the scattering surface to be on a separate, distinct layer from that of the internal scattering layer; it can be on the surface of the internal scattering layer as stated in the specification on p. 20.)

*Yamaha* discloses [col. 8, lines 13-24, see Fig. 3] that the phase compensation element has  $n_a = n_c > n_b$ , a-axis parallel to the plane, and b-axis inclined to the normal, so claims 2, 12, 21, and 35-37 are unpatentable. Also, the refractive index anisotropy is 0.092 [col. 7, line 42, this implicitly includes at 550 nm, the center of the visible light spectrum], so claims 8, 17, 26, and 34 are unpatentable. Also, the b-axis is at 20° [col. 8, line 6] so claims 9, 18, and 27 are unpatentable. Also,  $(n_a - n_b) \times d$  is 200 nm [col. 8, line 20], so claims 10, 19, and 28 are unpatentable.

*Maekawa* discloses [see abstract] that the internal scattering layer includes a polymer matrix ["curable resin"] and particles which [inherently] have a scattering center and different refractive index. Claims 4, 13, 22, and 30 are therefore unpatentable. Also, the image clarity measured using a 0.5 mm optical comb is 59 [see Table 1], so claims 7, 16, 25, and 33 are unpatentable.

8. Claims 5, 6, 14, 15, 23, 24, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yamaha et al.*, U.S. Patent No. 5,844,649 in view of *Maekawa*, U.S. Patent No. 6,164,785 and further in view of *Etori et al.*, U.S. Patent No. 6,348,960.

*Maekawa* does not appear to disclose the haze value of the anti-glare film. *Etori* discloses an analogous scattering layer and teaches that the haze should be "preferably 40% or more" [col. 5, lines 3-11] to obtain "paper-like whiteness". It would therefore be obvious to one of ordinary skill in the art to use a haze value in this range, motivated by *Etori's* teaching (the examiner takes official notice that one of ordinary skill in the art would be able to adjust the haze value as desired). Claims 5, 6, 14, 15, 23, 24, 31, and 32 are therefore unpatentable.

9. Claims 38, 39, 42-46, 50, and 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Liu*, U.S. Patent No. 6,097,464 in view of *Maekawa*, U.S. Patent No. 6,164,785 and further in view of *Etori et al*, U.S. Patent No. 6,348,960.

*Liu* discloses [see Fig. 3] a liquid crystal cell [307-309], polarizers [301, 302], and phase compensation element [303]. It also discloses [see Fig. 13] that the "color of the white level will be independent of the viewing angle" [col. 6, lines 63-64], which satisfies the chromaticity limitations of claims 38, 39, and 50 [see discussion above]. *Liu* does not disclose an antiglare film.

*Maekawa* does disclose an antiglare film, and it would be obvious to one of ordinary skill in the art to use in *Liu* just as above in *Yamahara*. Claims 38, 39, and 50 are therefore unpatentable. Likewise, claims 42-46 and 53-57 are unpatentable in view of *Maekawa* or *Maekawa* and *Etori* analogously to claims 3-7 above.

10. Claims 40, 41, 47-49, 51, 52, and 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Liu*, U.S. Patent No. 6,097,464 in view of *Maekawa*, U.S. Patent No. 6,164,785 and further in view of *Yamahara et al*, U.S. Patent No. 5,844,649.

*Liu* discloses the use of a compensation film, but not its details. *Yamahara* discloses a compensation film having the limitations of claims 40, 41, 47-49, 51, 52, and 58-60 (analogous to claims 35, 2, and 8-10, discussed above). It would be obvious to one of ordinary skill in the art to use this compensation film as the compensation film in *Liu*, motivated by *Yamahara*'s teaching that "since biased optical characteristics are properly compensated, viewing-angle characteristics in the case of inclined viewing angles can be improved" [see abstract]. Claims 40, 41, 47-49, 51, 52, and 58-60 are therefore unpatentable.



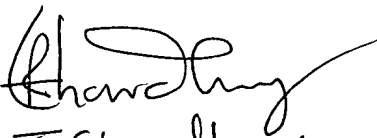
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (703) 306-5801. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-4711 for regular communications and (703) 746-4711 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AS  
Andrew Schechter  
April 15, 2003

  
T-Chandhury  
Primary Examiner.